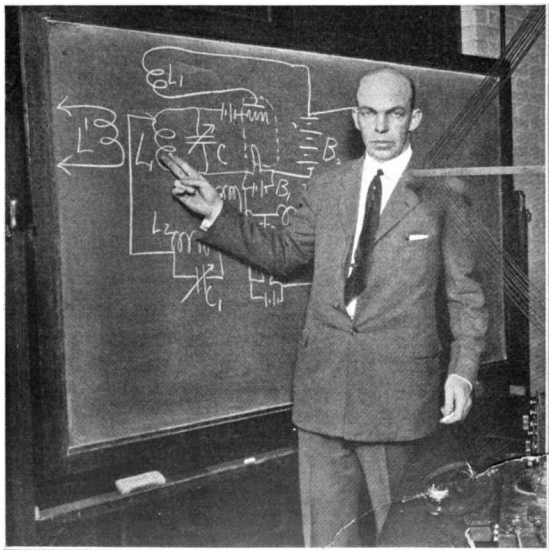
Living in the Past

Historical perspective

Pioneer of the airwaves



Professors of Columbia University had awarded that title to Edwin Armstrong, 1890 to 1954, boy genius, engineer, and inventor. Always a tinkerer from youth, Armstrong invented the regenerative circuit, the forerunner of today's RF amplifiers, while he was still in college. Perhaps his largest contributions to the craft were the superheterodyne receiver and FM radio.

Superheterodyning solved the problem of receiver high-frequency demodulation without the need for high-frequency circuitry, which was expensive and subject to temperature drift and other issues that didn't plague lower-frequency demodulation circuitry nearly as much. Most of today's radio receivers still use superheterodyning, although more and more are being developed with digital direct sampling.

Frequency modulation revolutionized broadcast radio, allowing the listener to enjoy relatively static-free demodulated transmissions, at least compared with amplitude modulation. When you turn on your HT and hear your friend static-free at only five watts, you have Edwin to thank for that crystal-clear communication.

Armstrong spent quite a lot of time fighting for patent rights, against others who laid claim to several of his inventions. In spite of the drawbacks during his tumultuous career, Armstrong received 51 patents, and in 1917 was the first person awarded the IEEE Medal of Honor. He was also awarded the Legion of Honor in 1919, the Franklin Medal in 1941, and the AIEE Edison Medal in 1942.

Say it with ~~flowers~~ a radio. In 1923, as a wedding present (and publicity photo) at Palm Beach, Florida, Edwin presented his bride with the word's first portable superheterodyne receiver, which he built.

Armstrong received an honorary doctorate from Columbia University in 1929, and another honorary doctorate from Muhlenberg College in 1941. Two halls were named for Edwin Armstrong, one at Columbia University, and the other at the US Army Communications Headquarters at Aberdeen Proving Ground, Maryland.

By the end of his life, more honors in the name of radio engineering and electronic innovation were awarded Edwin Armstrong, than probably to any other person, due to his revolutionary and inventive contribution to the art of radio. Today, the name Armstrong has become synonymous with radio engineering among research and education circles world-wide.